

What is Claimed is:

1. A method for isolating human neuroepithelial precursor cells from human fetal tissue comprising:

(a) culturing human fetal cells in fibroblast growth factor and chick embryo extract; and

(b) immunodepleting from the cultured human fetal cells any cells expressing A2B5, NG2 and eNCAM so that an isolated population of human neuroepithelial precursor cells remains.

2. A method for transplanting an isolated population of human neuroepithelial precursor cells into an animal comprising:

(a) isolating human neuroepithelial precursor cells from human fetal tissue in accordance with the method of claim 1; and

(b) transplanting the isolated human neuroepithelial precursor cells into the central nervous system of an animal.

3. A nonhuman animal model for study of transplantation of human neural stem cells into the central nervous system comprising a nonhuman animal transplanted with human neuroepithelial precursor cells isolated in accordance with the method of claim 1.

4. A method for monitoring survival, proliferation, differentiation and migration of human neuroepithelial precursor cells in the animal model of claim 3 comprising detecting human specific NCAM, GFAP, human nuclear antigen and human mitochondria in the animal model.